## **ABSTRACT**

Methods and systems for reconstructing images of moving objects being spirally scanned with two dimensional detectors with a 3PI algorithm. The moving objects can be scanned at a rate of up to approximately three times slower than those of pre-existing systems. In a preferred embodiment, the invention allows for a patient on a table moving through a spiral scanner to be slowed down by a factor of up to three, and still use the same size detector array as those in existing spiral scanning systems.